

SPD Employee Continuing Education
Training Guides



1003. Environmental Controls

Prepared by the SPD Advisory Group
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SUPPLY, PROCESSING & DISTRIBUTION (SPD) CONTINUING EDUCATION

ENVIRONMENTAL CONTROLS

Objectives

Upon completion of this session, participants will be able to:

- 1) Define environmental controls
- 2) Discuss the relevancy of environmental controls in the SPD unit
- 3) Define environmental factors related to the SPD unit
- 4) Discuss the role of hand washing in infection control
- 5) Determine which environmental controls are required in each functional area of the SPD unit
- 6) Discuss the importance of compliance with policy

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DEFINITION – Environmental control relates to the conditions of the SPD functions and how these conditions affect aseptic technique, infection control, and the end products/services provided by the SPD unit. Environmental controls include location, ventilation, air exchanges, temperature, humidity, traffic control, attire, housekeeping, and handwashing.

ENVIRONMENTAL FACTORS

- 1) **LOCATION:** The location of the functional areas of the SPD unit is important. Clean/sterile items must be transported in an enclosed cart or container to prevent contamination of items. When transporting contaminated items, items should be contained in an enclosed container/cart with biohazard label attached. Travel distances should be kept at a minimum to prevent contamination of the area traveled which may place employees/patients at risk. Ideally SPD should be located near the operating room to more effectively support the operating room exemplifying the total supply support concept.
- 2) **VENTILATION:** Ventilation relates to airflow, temperature/humidity and positive/negative air pressure. A clean, fresh, conditioned air supply helps to reduce airborne contaminants.
- 3) **AIR EXCHANGES:** There must be a minimum of ten air exchanges per hour in the SPD clean and sterile storage areas and preparation area and six air exchanges in the decontamination area to ensure proper air exchanges. Air should be vented to the outside.
- 4) **TEMPERATURE:** Excessive temperatures can contribute to the formation and growth of bacteria. The temperature within SPD should be 65-72 degrees. Temperatures are also important for the comfort of the SPD staff.
- 5) **HUMIDITY:** The temperature and high humidity's can also prolong drying times for sterilized goods, affect package integrity, and increase the growth of bacteria. Humidity levels must remain between 35-75 degrees.
- 6) **TRAFFIC/PEOPLE FLOW:** Traffic within the SPD must be limited to the staff who works in the unit as they have specific training on environmental controls. Others who have business in the SPD unit, such as maintenance workers, must limit their traffic to the areas where the work is to be completed and must don the appropriate attire. Traffic flow (or "people flow") should flow from clean to dirty. Traffic control also relates to work flow. Work flow should be arranged for maximum efficiency while maintaining aseptic techniques. Separation of clean and dirty must always be observed and work will flow from dirty to clean.

- 7) **ATTIRE:** Dress attire guidelines are established for each functional area of SPD. The decontamination area is Personnel Protective Equipment (PPE) and requires at a minimum, headcover, impervious gown, decontamination gloves, impervious footwear, a mask and eye protection or full-length face shield. Preparation and case cart areas require a long sleeved scrub, warm up jacket, or gown. A head cover is required, and if the employee has facial hair it must be covered. The reason for covering the arms, facial hair, and head is to prevent hair from falling into items being prepared for sterilization. Hairs are covered with proteinacious oils, which cannot be effectively sterilized. Distribution staff should wear hospital-approved pants and smock; white pants and blue smock is recommended. All hospital-supplied attire should be laundered by the facility and should never be worn to or from work.
- 8) **HOUSEKEEPING:** The housekeeping staff is responsible for the maintenance of a clean environment. It is important to train the housekeeper on proper cleaning techniques appropriate for SPD. A specific cleaning schedule must be established and observed. Dedicated cleaning supplies should be maintained for the prep/sterilization/distribution areas and the decontamination area. The housekeeper should always clean the decontamination areas last.
- 9) **HANDWASHING:** Proper and frequent handwashing is the single most important means of stopping the spread of infection. Handwashing can protect the employee as well as the environment. Hands should be washed before and after performing any task, i.e.: at the beginning of the tour of duty, before and after using the restroom, before and after eating, at the end of the tour, and whenever you leave the decontamination area. Your infection control practitioner can provide details and training for good handwashing techniques.

The goal should be to see environmental management systems, such as traffic control, dress codes, and general housekeeping duties as an integral part of the job. Those duties should be viewed as an important component of patient and employee safety.

Once employees understand the importance of traffic control, they will be more likely to follow protocol and enforce traffic control procedures. Employees then understand that traffic control maintains the integrity of both clean and contaminated areas of the department. They know that adherence to procedures reduces the risk for the patients, their co-workers, and themselves.

They also understand the significance of departmental dress codes and the importance of following them. They understand that head covers should cover all hair, that cover coats must be buttoned, and that failure to wear their uniform in the appropriate manner may increase the level of bacteria in their work area.

In the same manner, this awareness reinforces the need to utilize barrier protection such as personal protective equipment appropriately. This apparel can significantly reduce the risk of biohazard exposure when worn as directed.

A good understanding of basic microbiology and bacterial transmission can also lead to better personal hygiene and better handwashing techniques. The healthcare industry has stressed handwashing for years because it does make a significant difference in the work environment. Employees use handwashing techniques as a means to protect themselves.

Infection control through environmental management is ongoing. In order to be successful it requires protocol be adhered to at all times. It requires the concentration and efforts of each employee throughout each workday.

ENVIRONMENTAL CONTROLS

Post Test

True or False (Circle One)

- 1) T F Environmental Control relates to the conditions within SPD which support aseptic technique.
- 2) T F One of the environmental controls discussed was floor types.
- 3) T F Humidities below 30% are necessary in clean storage.
- 4) T F Traffic Flow should be from dirty to clean.
- 5) T F Work flow should be from dirty to clean.
- 6) T F Housekeeping staff play an important role in maintaining environmental controls in SPD.

Multiple Choice (Circle correct answer.)

- 7) The most important thing a staff member can do to reduce infections is
 - a) Arrive promptly to work every day.
 - b) Ensure negative airflow in the prep area
 - c) Handwashing
 - d) Wear shoe covers
- 8) Environmental factors do not include which of the following?
 - a) Traffic control
 - b) Attire
 - c) Humidity
 - d) Lighting
- 9) The supervisor is responsible for (circle all that apply)
 - a) Reports to Chief of Staff
 - b) Education of staff
 - c) Enforcement
 - d) Compliance and policy
- 10) What is the role of the employee as is pertains to environmental controls? (circle all that apply)
 - a) Education
 - b) Adherence
 - c) Enforcement
 - d) None of the above

ENVIRONMENTAL CONTROLS

Post Test

- 1) True
- 2) False
- 3) False
- 4) False
- 5) True
- 6) True
- 7) c
- 8) d
- 9) b, c, d
- 10) a, b, c